

CLAIMS

What is claimed is:

1 1. A spring device comprising:
2 a first section, a second section and a third section;
3 said first section having an elongated first leg, said first leg dimensioned and
4 configured to exert a first force against a first surface;
5 said first section fixed to said second section, said second section having a
6 plurality of coils, each said coil having an inside diameter dimensioned and configured to
7 slidingly fit around an object;
8 said coils spaced apart and coupled by an intermediate member fixed to each of
9 said coils and dimensioned and configured to exert a second force against a second
10 surface; and
11 said third section fixed to said second section, said third section having an
12 elongated second leg, said second leg dimensioned and configured to exert a third force
13 against the first surface.

1 2. The device of claim 1, wherein said spring comprises a unitary structure.

1 3. The device of claim 1, wherein each said coil being formed of a wire of about
2 0.09 inch diameter 304 stainless steel.

1 4. The device of claim 1, wherein said second force being about 40 inch-pounds.

1 5. The device of claim 1, wherein said spring includes a torsion spring.

1 6. The device of claim 1, wherein said first leg being positioned at a static angle
2 relative to said intermediate member.

1 7. The device of claim 6 wherein said static angle being about 145 degrees.

1 8. A biasing device for a scuttle lid safety brace assembly comprising:
2 a spring mounted on the safety brace;
3 said safety brace comprising a plurality of linkages hingedly coupled to one
4 another;
5 said spring having a first section, a second section and a third section;
6 said first section having an elongated first leg, said first leg dimensioned and
7 configured to exert a first force against said scuttle lid;
8 said first section fixed to said second section, said second section having a
9 plurality of coil(s), each said coil having an inside diameter dimensioned and configured
10 to slidably fit upon a hinge means operably coupling said safety brace to said scuttle lid;
11 said coil(s) spaced apart and coupled by an intermediate member fixed to each
12 said coil(s) and dimensioned and configured to exert a second force against said safety
13 brace linkage(s);
14 said second section fixed to said third section, said third section having an
15 elongated second leg, said second leg dimensioned and configured to exert a third force
16 against said scuttle lid; and
17 said legs and said intermediate member applying each said force to rotatively bias
18 said linkage(s) of said safety brace against said scuttle lid, wherein said linkage(s) are biased
19 to remain folded in the direction preventing said scuttle lid from closing.

1 9. The device of claim 8, wherein said spring comprises a unitary structure.

1 10. The device of claim 8, wherein said coil being formed of a wire of about 0.09 inch
2 diameter 304 stainless steel.

1 11. The device of claim 8, wherein said second force being about 40 inch-pounds.

1 12. The device of claim 8, wherein said spring includes a torsion spring.

1 13. The device of claim 8, wherein said first leg being positioned at a static angle
2 relative to said intermediate member.

1 14. The device of claim 13 wherein said static angle being about 145 degrees.

1 15. A method for rotatively biasing a safety brace on a scuttle lid thereby preventing
2 the lid from closing comprising:

3 providing said scuttle lid having said safety brace operably coupled by a hinge
4 pin;

5 providing a biasing device comprising:

6 a spring mounted on said safety brace;

7 said safety brace comprising a plurality of linkages hingedly coupled to
8 one another;

9 said spring having a first section, a second section and a third section;

10 said first section having an elongated first leg, said first leg dimensioned
11 and configured to exert a first force against said scuttle lid;

12 said first section fixed to said second section, said second section having a
13 plurality of coils, each said coil(s) having an inside diameter dimensioned and
14 configured to slidably fit upon a hinge means operably coupling said safety brace
15 to said scuttle lid;

16 said coil(s) spaced apart and coupled by an intermediate member fixed to
17 each said coil(s) and dimensioned and configured to exert a second force against
18 said safety brace linkage(s);

19 said second section fixed to said third section, said third section having an
20 elongated second leg, said second leg dimensioned and configured to exert a third
21 force against said scuttle lid;

22 said legs and said intermediate member applying each said force to
23 rotatively bias said linkage(s) of said safety brace relative to said scuttle lid,
24 whereby said linkage(s) are biased to remain folded in the direction preventing
25 said scuttle lid from closing;

26 removing said hinge pin coupling said safety brace to said scuttle lid;

27 providing a hinging means dimensioned and configured to slide within said coils
28 of said spring dimensioned and configured to rotatively bias said safety brace against said
29 scuttle lid;
30 replacing said hinge pin with said hinging means; and
31 positioning said hinging means within said coil(s) in that said spring is operably
32 coupled to said brace and said scuttle lid to prevent said lid from closing.

1 16. The device of claim 15, wherein said spring comprises a unitary structure.

1 17. The device of claim 15, wherein said coil being formed of a wire of about 0.09
2 inch diameter 304 stainless steel.

1 18. The device of claim 15, wherein said second force being about 40 inch-pounds.

1 19. The device of claim 15, wherein said spring includes a torsion spring.

1 20. The device of claim 15, wherein said first leg being positioned at a static angle
2 relative to said intermediate member.

1 21. The device of claim 20, wherein said static angle being about 145 degrees.